## IN THE CLAIMS

1. (original) A method for analyzing defect information on a substrate, the method comprising the steps of:
logically dividing the substrate into zones,
detecting defects on the substrate to produce the defect information,
analyzing the defect information from the substrate on a zone by zone basis to produce defect level classifications for the defects within each zone, and
analyzing the zonal defect level classifications according to at least one analysis method.

2. (original) The method of claim 1, wherein the defect level classifications are selected from a group of defect level classifications that is specified by a recipe.

3. (original) The method of claim 1, wherein the at least one analysis method includes at least one of zonal defect distribution, automatic defect classification, spatial signature analysis, and excursion detection.

4. (original) The method of claim 1, wherein the defect level classifications include at least one of individual defect, defect cluster, and spatial signature analysis signature.

5. (original) The method of claim 1, wherein the defect information is logically divided into configurable zones after the defects on the substrate have been detected.

6. (withdrawn) A method for detecting process excursions from defect information from a substrate, the method comprising the steps of:
analyzing the defect information based on a list of selectable factors to determine spatial signature analysis signatures, and
selectively assigning a process problem identification to the substrate based on a combination of more than one spatial signature analysis signatures detected on the substrate.

7. (withdrawn) The method of claim 6, wherein the list of selectable factors includes at least one of a number of events, an average density of an event, a number of die affected, an effective length of event, an area covered by event, and a location of event relative to substrate center.

8. (withdrawn) The method of claim 6, wherein the step of selectively assigning the process problem identification is accomplished with a table that includes a numeric process problem identification, a string process problem identification, a Boolean expression of component spatial signature analysis signatures, a remedial action, a notification action, a layer identification, and a severity level.

9. (withdrawn) The method of claim 6, wherein the step of selectively assigning a process problem identification to the substrate further comprises assigning a substrate identification to the substrate and storing the substrate identification and the process problem identification in a database.

10. (withdrawn) The method of claim 6, wherein more than one process problem identification can be assigned to each substrate.

11. (withdrawn) A method for detecting process excursions, the method comprising the steps of:

detecting defects on a selectable set of substrates,

compositing the defects detected on the set of substrates into an effectual substrate defect set, and

analyzing the effectual substrate defect set with a spatial analysis routine.

12. (withdrawn) The method of claim 11, wherein the spatial analysis routine includes at least one of spatial signature analysis and repeater analysis.

13. (withdrawn) The method of claim 11, wherein the selectable set of substrates includes substrates that all belong to a given lot.

14. (withdrawn) The method of claim 11, wherein the selectable set of substrates includes every $n^{th}$ substrate from a given data set, where $n$ is an integer that is greater than one.

15. (withdrawn) The method of claim 11, wherein the step of compositing the defects into an effectual substrate defect set includes at least one of translating and rotating a data set from a given substrate as needed to align with data sets from other substrates.

16. (withdrawn) A method for classifying defects on a substrate, the method comprising the steps of:

analyzing the defects with a first analysis routine that is adapted to classify larger patterns of defects, and

analyzing the defects that were not classified with the first analysis routine with a second analysis routine that is adapted to classify smaller defects, using output from the first analysis routine as input to the second analysis routine.

17. (withdrawn) The method of claim 16, wherein the first analysis routine is spatial signature analysis.

18. (withdrawn) The method of claim 16, wherein the second analysis routine is automated defect classification.

19. (withdrawn) The method of claim 16, wherein the output from the first analysis routine includes bounding boxes from a spatial signature analysis.

20. (withdrawn) The method of claim 16, wherein the first analysis routine is spatial signature analysis and the second analysis routine is automated defect classification, and the output from the first analysis routine includes bounding boxes.